Operational Facility Workstation Specifications

INTENT

The intent of this specification is to purchase operational facility workstations for use by the Federal Aviation Administration (FAA).

Except when otherwise noted, the item or capability specified is considered to be the minimum acceptable.

VENDOR'S INFORMATION

Configuration must be such that no renovations of existing structure occur and must allow for ample movement throughout the location. Workstations shall be capable of arrangement in such a way as to meet the existing needs of the facility and must meet ADA guidelines.

1. Structural Requirements

1.1. The sit-to-stand workstation shall be designed to configure to either a 90 degree corner, a 180 degree rectangular, or a 133 degree irregular rectangular configuration if required.

1.2. The lift system (includes 2 dual leg pairs) to be rated for a minimum of 360 lbs static load per pair beneath both the keyboard (input) surface and monitor (primary) surface (i.e. 360 lbs static load rating beneath the keyboard surface and 360 lbs static rating beneath the monitor surface). The maximum number of lift columns per surface must not exceed two.

1.3. The workstation must be a "full dual electric lift" system whereby the (input) keyboard surface can move independently of the primary (monitor) surface (i.e. one can be lowered when the other is being raised). The keyboard surface must be capable of being raised above the plane of the monitor surface.

1.4. Vertical adjustment to be provided by one pair of DC (direct current) motors beneath both the monitor and keyboard surfaces. Noise emissions of motors shall not exceed 55 dB. Each motor will be equipped with overload protection. Each workstation shall have two AC (alternating current) to DC (direct current) logic controllers (rectifier and transformer) with a UL/CSA approval rating of 120VAC/60 Hz/6A for each controller.

1.5. The workstation shall have an interconnecting steel base frame to provide lateral stability when the keyboard and monitor surfaces are fully extended vertically. In addition the full steel base frame construction must provide for mechanical support for the easy relocation of the workstation without having to disassemble the keyboard/monitor support structure. Designs utilizing modular units on castors are not acceptable.

1.6. Workstations must be modular in construction to accommodate FAA future needs including but not limited to additions/changes to workstation requirements, changes in facility footprints (floor space), and relocation with minimal downtime, inconvenience and cost.

1.7. All workstation peripheral support elements including but not limited to brackets, kits, connectors, light bulbs, power bars, Velcro, and cable wraps shall be included in vendor pricing.

1.8. The workstation must fit into a 90 degree corner and measure between 74" x 74" and 75" x 75" at its base.

1.9. Vendor must show capability of producing workstations with keyboard work surface areas of at least 110 square inches and monitor surface areas of at least 235 square inches.

1.10. The keyboard work surface shall move independently of the monitor work surface and be capable of allowing fully extended side-to-side motion across the enlarged keyboard surface without obstruction to the user from lift columns. In order to ensure this, the space below the keyboard and monitor work surface must be 40" W x 21" D. Cantilever keyboards and counterbalanced manual keyboard designs will not be accepted because they do not provide adequate stability when working at or near the outer ends of the multi-use keyboard surface. The maximum number of lift columns per surface must not exceed two.

1.11. Monitor and keyboard surface composition to be minimum 1" 50 lb/ft fire retardant and moisture resistant particle board with WilsonArt brand (or equivalent) 048" high-pressure laminate and backer board.

1.12. Monitor surface edging material shall be rounded and shall be readily replaceable on-site without the need to remove or replace the entire work surface.

1.13. Keyboard surface must be designed to accommodate multiple keyboards, mouse devices, and a desk top phone set. The keyboard surface must also provide both left and right handed writing space. This surface shall provide a wrap-around cockpit design eliminating the need for side-to-side movement by the user.

1.14. Each workstation to be equipped with a telescopic monitor surface platform capable of supporting up to (5) 21" flat screen monitors and allow the user to adjust both the focal and reach distances to either base-mounted or articulating arm-mounted monitors. For purposes of safety, the focal platform must <u>not</u> override the primary keyboard surface.

1.15. Horizontal lay-in cable management channels, to be constructed of a minimum 18 gauge cold rolled steel, must be capable of concealing and managing cabling required on the keyboard (input) and monitor (primary) work surfaces to the vertical cable management that delivers cables down to the floor. The horizontal cable channel shall be technically friendly and eliminate the need for fishing of wires through closed channels or wall panel partitions.

1.16. Flexible vertical cable management chain, minimum 2 ¼" x 36", shall be used to manage all electrical and communication cables from the floor to the CPU compartment and the monitor and keyboard surface. The vertical channel must be lay-in type and comply

with EIA/TIA bend radius standards for copper and fiber cabling. The channel must safely manage all cabling when the workstation moves from a seated to a standing position eliminating wear and tear on connectors, wires and cables. The channel must be technically friendly and eliminate the need for fishing of wires through closed channels or wall panel systems and must be capable of separating power from data cabling.

1.17. The workstation must provide the ability to secure and enclose all internal electronics and CPUs. To optimize floor space, CPUs and personal storage must be housed beneath the workstation and within cabinets integral to the workstation so that CPUs, monitors, and work surfaces are within easy reach of a seated user.

1.18. Electrical and communications wiring should be concealed and secured to the greatest extent possible to prevent accidental contact with wiring or accidental disconnection. It is deemed unacceptable to have coiled wiring on the floor, on desktop surfaces or egressing from wall panels to accommodate the vertical adjustment of work surfaces, as it can become entangled with other items and pose a safety hazard to users.

1.19. Workstations shall have a minimum of two CPU compartments, one of which must be located in the center of the workstation.

1.20. CPU compartments capable of housing three CPU's shall be a minimum of 23"D x 34"W x 20.5"H. CPU compartments capable of housing two CPU's shall be a minimum of 23"D x 23"W x 20.5"H.

1.21. A mounting area within the center CPU compartment must be available to support a typical 12 port Cat 5e data patch panel for each workstation.

1.22. Each workstation is to have (two) 4 outlet 20 amp UL/CSA approved power bars located under the rear of the monitor surface. The monitor surface power bars must be easily accessible and connect to the building supplied 20 amp UPS circuits.

1.23. Each workstation to have a surface mount duplex receptacle with a RJ 11 voice and a RJ 45 data connection.

1.24. Each workstation to have a 6 port extension block to support extended cable lengths for mouse and keyboard cables.

1.25. Each workstation to have one Communications Ground Bus.

1.26. Each workstation to be equipped with one 20 amp Power Distribution Center with the following attributes:
a. single phase
b. 3 circuit system
c. containing (4) 20A turn lock UPS receptacles
d. containing (1) 20A straight blade utility duplex receptacle.

1.27. Workstations must accommodate a minimum of five (5) CPU's (i.e. using the minimum two CPU compartments to be provided) with capability to accommodate a higher number as determined by facility needs. CPU cabinets to be constructed of a minimum

of 16 gauge sheet metal and feature a minimum 16 gauge sheet metal pull out telescopic shelf for ease of technical access.

1.28. Front and rear access doors shall either be a minimum 18 gauge sheet metal, or of a material demonstrably equivalent to sheet metal in regards to its durability and its ability to dissipate heat. All CPU cabinets shall be designed to provide adequate ventilation for the CPU's without the need for exhaust fans.

1.29. CPU compartments shall be housed within a cabinet integral to the workstation so that CPUs, monitors, and the workstation can all move simultaneously eliminating wear and tear on wiring and connectors, as well as the need for extended cable lengths.

1.30. Workstation base, cabinet housing, and structural framework must be of sufficient strength to prevent sagging or deflection over time and capable of sustaining the accumulated weight of monitors, CPUs, and associated hardware. All frame work will be powder coat painted with a durable finish.

1.31. Entire laminated surfaces of keyboard and monitor surface to be supported by a minimum 3/4" x 1 1/2", 16 gauge tubular frame, capable of eliminating any surface deflection.

1.32. Base to be constructed of a minimum of 14 gauge cold rolled steel with a minimum of 14 gauge cold rolled sheet metal base cover with a minimum of (4) readily accessible levelers, minimum 3/8" 16NC thread.

1.33. Workstations to contain four separate access points through the base to provide for privacy panel support bracing.

1.34. Vendors are to describe how their workstation can be seismically secured to the concrete sub floor located below the access floor tile level. Structural drawings of the workstation bracing design must also be included with each submission, and proof that the methods to be used have been previously approved by a Structural Engineering firm.

1.35. Top accessible feet glide adjustment to be provided on the workstation base for height adjustment purposes.

1.36. Privacy panel heights must range from 41" to 56". Depending on facility locations, the FAA may require that the top 12"-15" of this panel be constructed of tempered glass composition to provide seated eye contact with the adjacent users and unobstructed viewing to display walls.

1.37. Privacy panels shall be upholstered pop-out sections. Those panels providing access to the front or rear of the workstation for electrical repairs and maintenance must not interfere with the user. Recessed handles are required in the upholstered pop-out section.

1.38. Panels to have PVC kick plates to protect the bottom edge of the panel partition.

1.39. Panel partitions shall not require cable channels as wire management must be lay-in type (no cable fishing permitted) and must be properly integrated throughout the workstation in order to ensure easy relocation of the workstation.

2. Functional Requirements

2.1. All lift systems must be designed with a maximum of two lift columns per surface (keyboard or monitor). Maintaining the synchronization of three or more lift columns becomes more challenging as the workstation ages and servicing costs and downtime must be kept to a minimum at all times.

2.2. Workstations must be designed for use in a 24/7 FAA facility environment and provide for a life cycle in excess of 10 years. The vendor must be capable of demonstrating this extended life cycle in a 24/7 environment.

2.3. Vertical adjustment of the keyboard surface shall be electric (i.e. not a manual or mechanical adjustment mechanism) and shall encompass the range between 24.5" and 47.5."

2.4. Vertical adjustment of the monitor surface shall be electric (i.e. not a manual or mechanical adjustment mechanism) and shall encompass the range between 24.5" and 47.5."

2.5. Workstation with fully assembled hardware and privacy/modesty panel system must be capable of easy relocation within the communications center, as an integrated system without removal or disassembly of the keyboard/monitor support structure.

2.6. Each workstation will include two LED (non-heat emitting) task lights. Tasks lights are to be covered and fully adjustable so as to not interfere (i.e. produce glare) with adjacent personnel.

3. Human Factors and Safety Requirements

3.1. Panels to have a minimum Noise Reduction Coefficient (NRC) rating of .70.

3.2. Workstations shall have technical lighting within CPU compartments.

3.3. The workstation in this specification must meet the latest specifications for ergonomic comfort as described in the ANSI/HFES 100-2007. The workstation must be a "total lift" system whereby all hardware components are integral with the "total lift". With a "total lift" system, the vertical adjustment will ensure that a user or technician can safely and comfortably access, operate and maintain all of the equipment & technologies from any position ranging from fully seated to fully standing.

3.4. A minimum of one airflow louver is to be bi-directional and flush mounted to the monitor (primary) or keyboard (input) surface to ensure it does not become an obstacle on the work surface. Another bi-directional airflow louver is to be mounted below the workstation keyboard/input surface for lower body cooling.

3.5. Each workstation keyboard/input surface should accommodate two (desk top) Avaya 6416 + M telephone consoles measuring (10.5" x 9") with two XM24 expansion modules measuring (4.5" x 9").

3.6. Workstations shall provide a minimum of 21" of knee depth clearance.

3.7. Workstations shall provide a minimum of 23" depth at toe clearance.

3.8. For the added safety of end users, all workstations quoted by the vendor must be UL/CSA approved as a finished product or system. To clearly demonstrate that the workstation has been inspected, the UL/CSA Certification or Field Inspection Label must be affixed to the keyboard framework and must be located in clear view beneath this surface.

3.9. Controls for keyboard and monitor work surface movement (raising and lowering) and personal comfort amenities (e.g. fans or lights) are to be provided in a flush-mounted panel in each workstation. Addition to the workstation of any personal comfort amenities must not compromise hardware storage capacity.

3.10. The ergonomic control components must not create obstructions on the work surfaces.

3.11. Any personal comfort amenities shall include a flush mounted control panel. The control panel to include a dimmer control for the LED task light, a blower control for the fan forced airflow to the upper and lower body for cooling, and an on/off switch for the fan forced heater that warms the feet and leg area beneath the workstation.

3.12. Fan system for cooling to be 80 CFM, a maximum of 2.5 Sones (sound level) 120V/60Hz/.7A and include an air filter (replacement filters to be readily available).

3.13. Extra quiet fan forced heater shall be maximum 500W, 120V/60Hz/4.2A, (minimum 1500 BTU) with built-in thermostat for establishing ideal comfort setting. Heater to have thermal overload shutdown feature for added safety. The fan forced heater is to be located below the keyboard/input surface for lower body heating.

4. Vendor Requirements

4.1. All workstations to carry a minimum of three year limited product warranty and a life time warranty on steel framework in support of a 24/7 center. Vendor shall submit all warranty documentation including any OEM product warranties.

4.2. Vendor to provide pricing for 5- and 10- year extended warranty options. These prices are to be provided for entire workstation order taken as a whole and not per workstation.

4.3. Once installation is complete and prior to leaving site, Vendor is to provide training to technical staff on proper cable management and ergonomic factors associated with the workstation and leave purchaser with Technical and User Manuals.

4.4. Vendor shall schedule a delivery and installation time that is agreeable with both the FAA and the Control Center staff.